

## In the Claims

Claim 1 (currently amended): A final foamed product primarily of a PET matrix composition of recycled materials, said PET matrix composition consisting essentially of a micro cellular closed cell composite with discontinuous voids, said PET matrix composition comprising:

recycled polyethylene terephthalate (PET);

a branching agent; and

elastomeric material comprising recycled tires; and

said final foamed product is selected from the group consisting of: a docking post, telephone pole, beam, deck, boat slip, pier, stake, shovel, rake, ax handle, hammer, handles, shingle, baseball bat, and cricket bat.

Claim 2 (currently amended): A final foamed product in accordance with claim 1 wherein:

said PET comprises recycled plastic bottles comprising PET; and

said final foamed product comprises polyolefin selected from the group consisting of recycled milk jugs and recycled plastic toys.

Claim 3 (canceled)

Claim 4 (currently amended): A final foamed product in accordance with claim 13 wherein said elastomeric material further comprises ethylene-propylene-diene monomer (EPDM) at least one member selected from the group consisting of: ethylene-propylene-diene, recycled wiper blades, recycled vehicle seals, recycled refrigerator seals, -and recycled door gaskets.

Claims 5-9 (canceled)

Claim 10 (currently amended): A final foamed product selected from the group consisting of a micro cellular closed cell composite with discontinuous voids, an open cell

composite with semi-continuous voids, and combinations thereof, said final foamed product having a composition, comprising by weight:

from about 5% to about 95% recycled polyethylene terephthalate (PET) with an inherent viscosity (I.V.) from about 0.4 to about 0.9, said recycled PET comprising recycled PET bottles; and

from about 5% to about 50% elastomeric-containing material selected from the group consisting of styrene-butadiene, polybutadiene, polyisoprene, and natural rubber, said elastomeric material comprising granulated or pulverized recycled tires; and

from about 0.05% to about 2% of a branching agent providing a chain extending agent selected from the group consisting of pyromellitic dianhydride, trimellitic anhydride, benzophenonetetracarboxylic acid dianhydride, sulfonyldiphthalic acid dianhydride, 2, 2-bis (2-oxazoline), and pentaerythritol.

Claim 11 (currently amended): A final foamed product having a composition in accordance with claim 10 comprising by weight:

from about 20% to about 80% recycled PET comprising said recycled PET bottles with an inherent viscosity from about 0.5 to about 0.8; and

from about 10% to about 45% elastomeric-containing material comprising said granulated or pulverized recycled tires with a density from about 0.9 to about 0.96 g/cc.

Claim 12 (currently amended): A final foamed product having a composition in accordance with claim 10 comprising:

from about 30% to about 60% recycled PET comprising said recycled PET bottles with an inherent viscosity from about 0.6 to about 0.7; and

from about 20% to about 40% elastomeric-containing material comprising said granulated or pulverized recycled tires.

Claim 13 (currently amended): A final foamed product in accordance with claim 10; said final foamed product comprises a foamed railroad tie; and  
said final foamed product -includesing at least one foaming agent selected from the group consisting of: carbon dioxide, nitrogen, argon, cyclopentane, and a fluorocarbon partially substituted with chlorine, bromine, or iodine.

Claim 14 (currently amended): A final foamed product in accordance with claim 10 comprising by weight:

~~from about 0% to about 25%~~ polyolefin selected from the group consisting of polyethylene and polypropylene;

a compatibilizing agent comprising at least one binder selected from the group consisting of ~~about 0% to about 6%~~ Hytel type binder comprising thermoplastic polyester elastomer ~~efcomprising~~ polybutylene terephthalate (PBT) and polytetrahydrofusian glycol; ~~from about 0% to about 3%~~ ~~a~~ maleated polyolefin binder selected from the group consisting of polyethylene and polypropylene; and ~~from about 0% to about 1%~~ ~~a~~ polyester elastomer binder comprising polybutadienediaol (PDS);

~~from about 0.05% to about 2%~~ of a branching agent providing a chain extending agent selected from the group consisting of pyromellitic dianhydride, trimellitic anhydride, benzophenonetetracarboxylic acid dianhydride, sulfonyldiphthalic acid dianhydride, 2, 2 bis (2-oxazoline), and pentaerythritol;

~~from about 0% to about 3%~~ ~~a~~ hydrolytic resistance agent selected from the group consisting of 2, 2'-bis (2-oxazoline), poly (1, 3, 5-trisopropylphenylene-2, 4-carbonimidide, N, N'-bis (2, 6-disopropylphenyl) carbodiimide, and 2, 6, 2', 6'-tetraisopropyldipheyl carbodiimide; and

~~from about 0% to about 30%~~ ~~filler comprising additives selected from the group consisting of talc, silica, colorant, glass fibers, carbon black, and calcium carbonate.~~

Claim 15 (currently amended): A final foamed product in accordance with claim 14 comprising by weight:

~~from about 0% to less than about 15%~~ polyolefin;

a compatibilizing agent comprising at least one binder selected from the group consisting of ~~about 1% to about 5%~~ ~~Hytel type binder~~ ~~thermoplastic polyester elastomer~~, ~~from about 1% to about 2%~~ maleated polyolefin binder, and ~~from about 0.1% to about 0.8%~~ polyester elastomer binder;

~~from about 0.2% to about 1%~~ branching agent;

~~from about 0.2% to about 2%~~ hydrolytic resistance agent; and

~~from about 0% to less than about 25%~~ ~~filler.~~

Claim 16 (currently amended): A final foamed product in accordance with claim 14 comprising by weight:

~~from about 0% to less than about 5% polyolefin;~~  
a compatibilizing agent comprising at least one binder selected from the group consisting of about 2% to about 4% ~~Hytel type binder~~ ~~thermoplastic polyester elastomer~~, from about 0.5% to about 1.5% maleated polyolefin binder, and from about 0.3% to about 0.6% polyester elastomer binder;  
from about 0.3% to about 0.6% branching agent;  
from about 0.5% to about 1% hydrolytic resistance agent; and  
~~from about 0% to less than about 20%~~ filler.

Claim 17 (currently amended): A final foamed product in accordance with claim 14 wherein said polyolefins comprise recycled products selected from the group consisting of: bottle-base cups, bottle caps, labels, ~~milk~~ jugs, garbage bags, scrap sheeting, plastic bottles, and plastic toys.

Claim 18 (canceled)

Claim 19 (currently amended): A final foamed product having a composition in accordance with claim 18 ~~further comprises at least one member further comprising ethylene-propylene diene monomer (EPDM) selected from the group consisting of recycled vehicle wiper blades, recycled door gaskets, recycled vehicle seals, and recycled refrigerator seals.~~

Claim 20 (currently amended): A final foamed product in accordance with claim 10 wherein said final foam product is - selected from the group consisting of: a ~~foamed~~ railroad tie, ~~foamed~~ post, ~~foamed~~ beam, ~~strut~~, ~~plank~~, ~~foamed~~ pole, ~~deck support~~, ~~foamed~~ deck, ~~foamed~~ boat slip, ~~foamed~~ pier, ~~foamed~~ stake, ~~foamed~~ shovel, ~~foamed~~ rake, ~~foamed~~ ax handle, ~~foamed~~ hammer, ~~foamed~~ handle, ~~foamed~~ shingle, ~~foamed~~ baseball bat, and ~~foamed~~ cricket bat.

Claim 21 (canceled)